It Just

By AE2 Jason Rogers

It was a night of routine flight operations on the flight deck, and my squadron's Hawkeye aircraft were doing great. I also was doing pretty good, but fate was about to deal me a rotten set of cards.

I work in the troubleshooter workcenter and spend most of my time on the flight deck, doing the best I can to make sure our aircraft stay ready. I enjoy working the flight schedule, but, as I prepared to head to the flight deck for the last event of the night, my shop received a call from maintenance control.

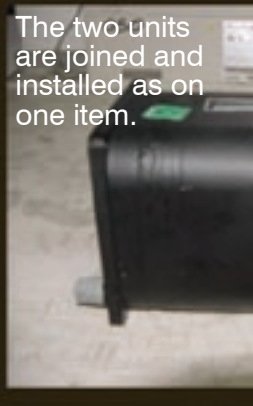
An E-2C was about to recover, and the aircrew had found a problem with the co-pilot's attitude direction indicator (ADI). The flight schedule called for a hot-refuel and crew switch. The ADI is the primary flight instrument that provides pilots with the aircraft's spatial orientation in flight. I volunteered to do the CDI checks on this seemingly easy fix.

A co-worker and I established a plan to change the ADI during the hot-refuel and crew-switch process. After the aircraft recovered, we took our place in the propeller safety circle around the Hawkeye and waited for our turn to go inside the aircraft. When the aircrew finished their crew switch, the plane captain signaled for troubleshooter No. 2 to enter the aircraft. After an operational check and a brief discussion with the pilot, we determined the co-pilot's ADI needed to be replaced. We had our authorized spare ADI ready, so I asked the pilot to let my co-worker sit in his seat to gain easier access to the co-pilot's ADI. That part quickly was removed, and the new one was installed in record time.

After my shipmate was done, he handed me the ADI, and I did the final CDI-and-FOD inspection. The part was installed properly, and no FOD appeared to be in the area. We left the aircraft, and a QAR inspected our tools. It seemed like a job well done!

I then took my spot in our propeller safety circle and sent my co-worker down to the shop with the bad ADI. I finished the rest of the event and got a thumbs up from both final checkers after the plane went off the catapult. One more recovery, and we would secure for the night. I then headed down to my shop to do a tool inventory and to call it a night. The night-check supervisor grabbed me and told me a part was missing off the back of the ADI that had been given to supply. The item was a small power amplifier that is attached

The small amplifier connects to the ADI.



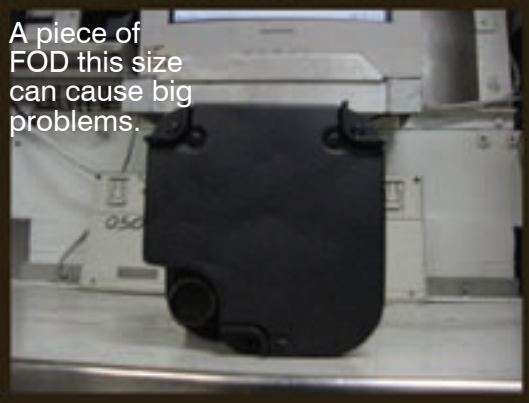
The two units are joined and installed as on one item.

Photographs by AM2 Freddie Morgano

"World-class organizations do not tolerate preventable accidents." –Donald Rumsfeld, SecDef

Fell Apart

Photograph by PH2 Inez Lawson



A piece of FOD this size can cause big problems.

to the ADI. I told him I wasn't aware of any missing part or its location. This perfectly good day and night quickly went downhill from there.

The missing part is not easy to lose because it is held in place with two screws and a cannon plug. I had assumed (I know the worst thing I could do) that either supply had lost it or one never was installed. I did not believe that two three-inch screws and a cannon plug could fall off a part that nearly was new. We had replaced it just two weeks earlier.

The squadron notified the aircrew of the problem, and they looked around the cockpit but did not see the missing part. It was possible the part had fallen off while being carried from the flight deck, so a combat FOD walkdown was called away. Unfortunately, the missing part was not found.

After the aircraft recovered early, QA found the missing part behind the co-pilot's instrument panel, just above the rudder-pedal adjustment handle. This location is just below the mounting point for the ADI, but it's behind a valance, explaining why the aircrew didn't notice it. I initially was shocked at this discovery, but, after putting together all the information after the fact, it made sense.

The aircrew had a problem with the ADI just after the catapult shot on the first sortie. We believe that shot caused the amplifier to fall off the back of the ADI. AIMD technicians explained that the ADI would not work without that part. Two screws and a cannon plug should not have fallen off. Therefore, the hardware and cannon plug probably had not been installed correctly two weeks earlier. Nevertheless, as the CDI for the job, I should have taken a few extra seconds to inspect all the parts removed and replaced. Had I done that, the missing part would have been noticed.

I have gone over the entire job a number of times and have reflected on what could have happened. That box might have become a missile hazard after the catapult shot or arrested landing, injuring the aircrew. The aircraft and aircrew could have been lost because of jammed flight controls. I want every maintainer to take a few extra seconds—ones I didn't use—to make sure the improbable doesn't come true. Regardless of the tempo, check and recheck your boxes for security and to prevent FOD.

Petty Officer Rogers works in the AE shop at VAW-112.

The Naval Safety Center is dedicated to reducing mishaps by 50 percent in two years.